

Notice of Allowability

Application No.

10/776,181

Examiner

Erica E Cadugan

Applicant(s)

VANDERPOL ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 2/14/2005 and interview of 5/10/05.
2. ☒ The allowed claim(s) is/are 1-10 and 13-17.
3. ☒ The drawings filed on 12 February 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Justin Cassell on May 10, 2005.

2. The application has been amended as follows:

Claim 1 (Currently Amended). A cutting tool and track system, comprising:

at least one track element configured to be attached to a surface of a workpiece, the at least one track element including a track member and a rack member supported along the longitudinal length of the track member and defining a transport path;

a carriage assembly configured to ride along and to be guided and supported by the at least one track element;

a carriage drive mechanism arranged to drivingly engage the carriage assembly and to drive the carriage assembly along the at least one track element;

a cutting tool assembly carried by the carriage assembly, the cutting tool assembly including a cutting tool arranged to be rotated about a longitudinal axis and to be fed both along its axis of rotation and transversely of its axis of rotation for cutting a workpiece through a wall thickness of the workpiece; and

a tool driving system connected to and arranged to transmit rotary input motion to the cutting tool;

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[wherein the track member is substantially flexible to permit bending thereof to generally conform to a geometrical portion of a workpiece]

and wherein the carriage assembly includes at least one bearing assembly that is spring-biased into contact with the track member, the contact pressure of the at least one bearing assembly relative the track member being adjustable via an adjustment structure, said contact pressure being able to be fixed via a fixation device.

Claim 2 (Currently Amended). The cutting tool and track system according to claim 1, wherein the at least one track element comprises:

at least two supports connected to a bottom surface of the track member and configured to be attached to a workpiece;

wherein each of the supports is configured to be attached to a securing element supported on the workpiece.

Claim 5 (Currently Amended). The cutting tool and track system according to claim 1, wherein the carriage assembly comprises:

a carriage deck configured to carry the cutting tool assembly and having at least two threaded holes extending therethrough; and

at least two [adjustable] of the bearing assemblies received and retained by the threaded holes of the carriage deck, the adjustment structure of each bearing assembly including a pin element extending through a threaded sleeve member positioned in operative engagement with one of the threaded holes, and the bearing assemblies each including a plurality of conical compression-type springs, a first end of each of the pin elements engaging a bearing, the fixation

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device of each of the at least two bearing assemblies [each] including a retaining nut engaging the respective sleeve member and positionable against the carriage.

Claim 16 (Currently Amended). A cutting tool and track system, comprising:

at least one track element configured to be attached to a surface of a workpiece, the at least one track element including a track member and a rack member supported along the longitudinal length of the track member and defining a transport path;

a carriage assembly configured to ride along and to be guided and supported by the at least one track element;

a carriage drive mechanism arranged to drivingly engage the carriage assembly and to drive the carriage assembly along the at least one track element;

a cutting tool assembly carried by the carriage assembly, the cutting tool assembly including a cutting tool arranged to be rotated about a longitudinal axis and to be fed both along its axis of rotation and transversely of its axis of rotation for cutting a workpiece through a wall thickness of the workpiece; and

a tool driving system connected to and arranged to transmit rotary input motion to the cutting tool;

wherein the carriage assembly comprises:

a carriage deck configured to carry the cutting tool assembly and having at least two threaded holes extending therethrough; and

at least two adjustable bearing assemblies received and retained by the threaded holes of the carriage deck, each bearing assembly including a pin element extending through a threaded sleeve member positioned in operative engagement with one of the threaded holes, and a

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plurality of conical compression-type springs, a first end of each of the pin elements engaging a bearing, the at least two bearing assemblies each including a retaining nut engaging the respective sleeve member and positionable against the carriage.

In claim 17, line 3, --at least one-- has been inserted prior to "track element".

In claim 17, line 6, --at least one-- has been inserted prior to "track element".

In claim 17, line 8, --at least one-- has been inserted prior to "track element".

3. The following is an examiner's statement of reasons for allowance: U.S. Pat. No. 4,297,061 to Wolfe et al. and U.S. Pat. No. 3,010,352 to Dunlap are representative of the closest prior art of record to the present invention as set forth in the independent claims 1, 16, and 17.

Wolfe et al. was discussed in detail in the preceding office action. Suffice it to say, Wolfe et al. does not teach that "the carriage assembly includes at least one bearing assembly that is spring-biased into contact with the track member, the contact pressure of the at least one bearing assembly relative the track member being adjustable via an adjustment structure, said contact pressure being able to be fixed via a fixation device" as set forth in independent claim 1. Furthermore, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Wolfe et al., and thus, for at least this reasoning, Wolfe et al. does not render obvious the present invention as set forth in independent claim 1.

Regarding independent claims 16 and 17, it is noted that in the preceding office action, dependent claims 5 and 8 were indicated as being allowable over the prior art if rewritten to overcome their respective rejections based on 35 USC 112, second paragraph and to include all limitations of the base claim and any intervening claims.

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Independent claim 16 constitutes claim 5 so rewritten, and independent claim 17 constitutes claim 8 so rewritten. The indication of the allowability of such subject matter has not changed, and thus, independent claims 16 and 17 are allowable over the prior art of record.

Regarding the Dunlap reference as it relates to claim 1 (the reasons for allowance for claims 16 and 17 have already been addressed with respect to the prior art of record as a whole), Dunlap teaches a track 12 including a “track member” or rail 32 having serrations or a “rack” thereon (col. 4, lines 71-75, Figures 1-2) that is affixed to a workpiece 16. Dunlap explicitly teaches that the track is first “formed into a basic configuration conforming substantially to the cross-sectional configuration of the” workpiece 16 (col. 3, lines 48-60, for example, also 5, lines 16-27). Also, Dunlap teaches a carriage assembly including cutting head 14 (Figures 1-2), which carriage assembly is driven along the “track” via a “drive mechanism” that includes the structure that enables motor 42 to drive carriage 72 along the track (via the engagement of serrated wheel 80 with the serrations on the track) as described in col. 4, lines 58-75 and shown in Figures 1-2, for example.

Cutting tool assembly includes cutting tool 48 that rotates about the horizontal axis as viewed in Figure 2 via a “tool driving system” that connects the cutting tool 48 drivingly to motor 42 as described in column 4, lines 8-14.

The tool is fed along its axis of rotation (see col. 5, lines 8-15) and is also fed transversely thereto (see col. 4, lines 15-20 and Figure 2, for example).

Additionally, spring 94 is used to continuously bias the drive wheel into “optimum engagement” (presumably and implicitly with varied contact pressure) with the associate surface of the rail (col. 5, lines 70-75, Figure 2).

However, it is noted that Dunlap does not teach that the contact pressure is “able to be fixed with a fixation device” as set forth in independent claim 1. Also, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of Dunlap, and thus, for at least this reasoning, Dunlap does not render obvious the present invention as set forth in independent claim 1.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Specifically note that U.S. Pat. No.'s 4,109,959 (col. 4, lines 27-31, col. 6, lines 40-44, and Figure 3, for example) and 4,249,769 (col. 6, lines 20-36 and Figure 1, for example) provide an evidentiary teaching that rectangular steel tubing (i.e., of box beam configuration similar to the box beam guide rail taught by Wolfe et al.) that is bent to a desired shape and that is made of high strength carbon steel, is known. Additionally, each of U.S. Pat. No.'s (already of record) 4,570,542 (columns 1-2), 3,226,027 (col. 1, lines 29-30, for example), 5,562,043 (col. 1), and 3,575,364 (abstract, for example) teaches the use of a “flexible” guide rail having a rack surface thereon engaged by a tool carriage member, wherein the guide rail is flexed or deformed according to the shape of various workpieces.

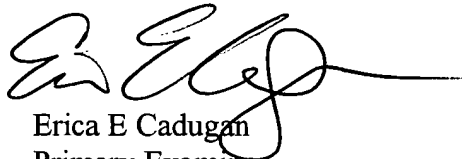
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474.

The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris H. Banks can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadugan
Primary Examiner
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